LABORATORY

OF THE

INLAND REVENUE DEPARTMENT

OTTAWA, CANADA.

BULLETIN No. 286

Ground Ginger and a Study of Analytical Results.

60776—1

CORRECTION.

In Bulletin No. 275, page 6, an error occurs in connection with samples Nos. 56132 and 56133 (District of Quebec), in column headed "Manufacturer." Sample No. 56132 is made by the T. A. Lytle Co. of Toronto. Sample No. 56133 is made by the Heinz Co., Pittsburg, U.S.A.

Bulletin No. 280. Sample 50370. This sample is in error. Reported as containing Saccharin. The amount of Salicylic Acid present is so considerable that its incomplete removal by Oxidation led to the error mentioned.

Sample No. 60050, page 14, under column headed "Manufacturer" should be stated "Unknown."

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BULLETIN No. 286

Ground Ginger and a Study of Analytical Results.

OTTAWA, April 23, 1914.

GEO. W. TAYLOR, Esq.,
Acting Deputy Minister, Inland Revenue.

SIR,—I have the honour to submit a report on Ground Ginger as sold in Canada. This report deals with 259 samples, purchased in November and December of 1913, and in January of this year.

Ginger has been inspected on five occasions, before the present; and has always been found to be more or less adulterated, as shown by the following record:—

Year.	Bulletin.	Total samples.	Adulterated	Percentage of adulteration.
1897	48	98	26	26
1904	95	10	4	40
1907	137	30	1	3
1909	184	150	32	21
1912	236	151	14	9
1914	286	259	48	20

The adulteration referred to in the above tabulation may be called *gross*, inasmuch as it consists, mainly of added foreign material, viz.: starches or flour, turmeric, cayenne or mineral matter.

A more subtle form of adulteration, namely, the intermixture or substitution of exhausted ginger, has for the most part escaped penalization. Exhausted ginger is ginger from which the components which give the article value as a spice have been extracted. After extraction, the residual tissues retain their characteristic forms and the starch may be so little altered as to be indistinguishable from normal ginger starch. As a spice, this residue possesses practically no value, and should not be

found on the market except perhaps as an ingredient in Cattle Foods, where it may possibly find legitimate use, although even this is doubtful. It is however quoted in many wholesale price lists, and I find one of this year, offering Spent Ginger at 4 cents f.o.b. Montreal, while genuine ginger is quoted at 10½ cents.

It will be readily understood that the availability of this comparatively useless article offers a great temptation to grinders; and there can be no doubt whatever that many samples reported herewith, as well as in former bulletins, consist in part of the spent ginger, or exhausted ginger above referred to.

The difficulty of detection lies in the fact that the characteristic microscopic structure remains unaltered, and even the chemical characters are so little changed that a considerable percentage of spent ginger may be added to a good quality of genuine ginger without modifying the specific constants to such an extent as to justify the analyst in declaring the sample adulterated.

The only effective way of meeting the case would seem to be the establishing of standards for moisture, total and water soluble ash, and extractive matters, beyond which a sample should be declared illegal.

This alternative has been kept in view from the first, and I am of opinion that the data which we have accumulated since 1897, will be found sufficient basis for standardization of commercial ground ginger.

The moisture content varies from about 6·5 to 10 per cent so far as the present report is concerned. Somewhat higher numbers were found in 1897 (Bull. 48), 1904 (Bull. 95), while distinctly lower percentages of water were found in 1906 (Bull. 137). It is however quite unusual to find less than 7 per cent of water in genuine ginger. This datum is of little value, considered in itself, but in its relation to total extractive by cold water, it must be regarded as essential.

The ash content of ginger depends much upon the way in which the rhizomes are cleaned before grinding, and is of course, greatly influenced by the presence of lime used as a coating of the rhizome. This practice is quite common, and must be held to account for the extremely variable amounts of total mineral residue obtained on incineration.

The most important datum for judging adulteration by addition of spent ginger is the percentage of cold water extractive.

The exhaustion of ginger by water entails loss of soluble salts, and consequent reduction of water soluble ash; so that a lowered water extractive is usually accompanied by a lowered soluble ash. The following study illustrates the effect of previous extraction upon the ash percentage.

Four samples of genuine gingers were worked before and after extraction with cold water, and ash determined.

Sample.	Total Ash.				Water Soluble Ash.			
	Before.	After.	Loss.	p.c. loss.	Before.	After.	Loss.	p. c. loss.
37584	5·42	3·14	2·28	42	2·18	0·65	1·53	70
37587	4·65	2·25	2·40	52	1·98	0·30	1·68	85
39458	4·59	1·38	3·21	70	3·38	0·24	3·14	93
39464	3·63	0·98	2·65	73	1·86	0·15	1·71	92

From Bulletin No. 184.

Method of working for determination of cold water extractive in ground ginger.

Weigh 10 grammes into a 500 cc volumetric flask of Wagner form; fill to the mark with distilled water, close, and place on a rotator of 24 inches diameter revolving 40 times per minute for 30 minutes. Centrifuge a portion of the mixture, filter and evaporate 50 cc to dryness in platinum at 100°C. Cool and weigh residue.

It will be observed that the exhaustion of ginger by cold water results in notable reduction of both the total ash, and the water soluble ash; but the percentage reduction of soluble ash is much greater than that of the total ash.

It follows that an exhausted or spent ginger yields not only a lower extractive, but also a lower soluble ash number.

Before attempting to interpret the numbers obtained on analysis it is desirable to ascertain characteristic numbers for samples known to be genuine.

The first work done in these laboratories upon ground ginger was published in Bulletin No. 48 (May, 1897), and a mean of 14.03 per cent, cold water extractive was found for seven samples of ginger believed to be genuine. The mean soluble ash found for these samples was 2.96.

An improved method of determining cold water extractive was applied to four samples (reported in Bulletin No. 95—p. 23—February, 1904), and resulted in an average of 19.3 per cent extractive. The ash was not determined.

Bulletin No. 137 (July, 1907), gives extractives for twenty-eight samples of ground (mostly Jamaica) gingers, by the method employed in 1904, the average extractive being 21.95 per cent. The ash was not determined.

These results appear to indicate that genuine ginger should yield about 19 to 20 per cent of extractive to cold water, under conditions of working as described in Bulletin No. 95.

Two samples of African ginger, accompanied by guarantees of genuineness have recently been worked in this laboratory, with the following results:—

Sample A—12.80 Extractive
" B—14.90 "

A sample of Jamaica ginger, guaranteed genuine, was worked at the same time and yielded 19.90 per cent extractive.

It follows that a distinction should be made between Jamaica and African gingers in this regard; and it is possible that Cochin, Cape and other varieties of ginger may differ among themselves, characteristically.

Bulletin No. 184 (July, 1909), contains a report on 150 samples of ground ginger. Of this number 112 showed only ginger tissues under the microscope. Ninety-seven of these gave extractive above 14 per cent, and it will be convenient for purposes of study, to consider separately, such samples of ground ginger, showing no foreign admixture under the microscope, as yielded above and below 14 per cent extractive to cold water.

The subjoined table (1) gives a synopsis of 97 samples of presumably genuine ginger, as reported in July, 1909, (Bulletin No. 184).

TABLE I.

District.	No. samples.	Extractive.			Soluble Ash.		
		Max.	Min.	Mean.	Max.	Min.	Mean.
Nova Scotia	7	17·47	14·30	15·64	2·69	[illegible]	[illegible]
Prince Edward Island	6	20·41	14·06	16·57	3·13	[illegible]	[illegible]
New Brunswick	9	20·38	14·20	16·29	2·48	1·6[illegible]	[illegible]
Quebec	3	18·06	15·80	16·18	2·82	1·41	[illegible]
St. Hyacinthe	5	18·81	14·08	16·03	2·70	2·37	[illegible]
Montreal	4	17·15	14·27	15·91	2·33	1·38	[illegible]
Ottawa	5	18·54	14·68	16·78	2·97	2·18	[illegible]
Kingston	5	18·45	16·27	17·13	2·70	1·86	[illegible]
Toronto	5	17·72	14·90	16·69	2·82	2·02	[illegible]
London	9	19·56	14·85	16·31	3·04	2·14	[illegible]
Windsor	10	18·66	15·62	16·31	2·70	2·10	[illegible]
Manitoba	6	17·32	14·73	16·23	2·77	1·72	[illegible]
Calgary	6	18·75	14·22	16·61	2·78	1·80	[illegible]
Vancouver	9	16·92	14·58	15·95	2·62	1·89	[illegible]
Victoria	8	19·[illegible]5	14·73	16·93	2·62	1·99	[illegible]

The following synopsis similarly arranged, shows the maximum, minimum and mean results obtained in analysis of 133 samples, reported in Bulletin No. 236, and yielding more than 14 per cent extractive.

TABLE II.

Sample showing no foreign tissues—Extractive above 14 per cent.

District.	No. samples.	Extractive.			Soluble Ash.		
		Max.	Min.	Mean.	Max.	Min.	Mean.
Nova Scotia	10	19·51	15·44	16·78	3·10	1·86	2·39
Prince Edward Island	8	19·49	14·46	17·28	4·[illegible]	1·98	2·67
New Brunswick	9	19·95	14·42	17·41	3·46	2·12	2·46
Quebec	7	17·17	14·95	16·13	2·60	1·20	1·93
St. Hyacinthe	10	20·42	15·47	17·75	3·04	0·86	2·00
Montreal	7	20·61	15·46	17·40	6·08	1·80	2·69
Ottawa	9	19·28	14·86	17·49	2·88	1·28	2·34
Kingston	9	19·03	15·55	17·69	3·52	1·98	2·45
Toronto	5	19·28	15·35	18·76	2·76	2·00	2·30
Windsor	10	19·14	15·45	17·50	3·54	0·[illegible]	2·52
Manitoba	10	19·95	15·93	17·60	2·68	1·40	2·11
Calgary	10	18·87	14·77	16·29	4·20	1·88	2·42
Nelson	9	18·94	16·20	17·34	3·74	1·34	2·48
Vancouver	10	17·92	15·46	16·69	3·06	1·40	2·38
Victoria	10	18·89	15·29	17·06	4·46	1·94	2·54

Finally the next Table (III) shows the results obtained with 194 samples yielding above 14 per cent extractive and reported in the present Bulletin No. 286.

TABLE III.

Samples giving more than 14 per cent extractive, and containing no foreign tissues.

District.	No. samples.	Extractive.			Soluble Ash.		
		Max.	Min.	Mean.	Max.	Min.	Mean.
Nova Scotia	20	19·05	15·00	18·04	3·68	2·02	2·60
New Brunswick	13	20·05	15·05	17·96	3·24	1·50	2·46
Quebec	7	20·25	15·00	17·25	2·42	1·46	2·15
East Quebec	7	19·95	14·35	16·41	2·58	1·48	2·23
Three Rivers	7	17·70	14·70	16·20	2·62	1·12	2·04
Eastern Townships	5	18·90	14·65	16·30	2·52	1·44	2·10
Montreal	6	19·90	14·00	16·44	2·78	1·80	2·21
Valleyfield	9	20·00	14·15	17·60	3·18	1·84	2·67
Ottawa	8	19·20	14·45	15·97	2·80	1·92	2·37
Kingston	14	19·90	14·30	17·31	3·32	2·10	2·41
Toronto	16	20·80	14·25	17·46	2·74	2·04	2·36
Hamilton	11	19·45	15·35	17·52	2·74	2·02	2·29
Windsor	12	20·60	15·95	17·67	2·90	2·06	2·50
Manitoba	15	20·55	15·10	16·91	3·28	2·00	2·42
Alberta	15	18·25	16·50	17·35	2·96	1·84	2·43
Rocky Mountains	13	18·30	14·05	16·21	2·72	1·92	2·40
Victoria	14	18·80	14·30	16·60	2·64	2·00	2·38
Two Mountains	2	17·30	15·50	16·40	2·90	2·33	2·61

The three reports quoted in these tables, deal with representative collections of ground ginger as found on the Canadian markets, and may be summarized as follows:—

Bulletin.	Samples adulterated with foreign material.	Samples showing ginger tissues only.		Total.
		Above 14 p.c. extractive.	Below 14 p.c. extractive.	
No. 184	38	97	15	150
No. 236	7	133	11	151
No. 286	33	194	32	259
	78	424	58	560

If this work done upon 560 samples may be taken as representative of the article, it is apparent that all the better grades of ginger yield above 14 per cent extractive to cold water, and fully 2 per cent of water soluble ash.

Further, the best grades of ginger yield much more than 14 per cent extractive, Jamaica ginger apparently yielding from 19 to 20 per cent.

It would seem reasonable that this class of gingers should be distinguished in commerce (retail commerce) from the more ordinary varieties; and it is not uncommon to find Jamaica ginger sold as such.

The following Table (IV) gives a conspectus of results obtained with gingers which yielded less than 14 per cent extractive matter.

TABLE IV.

Samples showing less than 14 per cent extractive, and containing no foreign tissues.

No.	Bulletin No. 184.		Bulletin No. 236.		Bulletin No. 286.	
	Extract.	Soluble Ash.	Extract.	Soluble Ash.	Extract.	Soluble Ash.
1	13·00	2·25	12·57	1·90	13·45	2·40
2	11·17	1·81	13·69	3·40	13·45	2·18
3	11·80	1·66	12·83	1·50	6·80	0·54
4	9·11	0·79	10·88	1·14	12·00	2·14
5	5·83	0·62	11·83	1.59	13·20	1·50
6	11·93	1·59	12·18	1·42	10·00	1·44
7	13·89	1·96	11·75	1·10	13·60	1·48
8	12·97	1·27	11·49	1·60	13·10	1·18
9	13·98	2·09	10·43	1·46	12·20	1·88
10	13·01	1·37	13·88	3·36	12·10	1·88
11	13·54	2·06	13·33	1·60	12·75	1·26
12	13·84	2·52	.....	.....	12·90	2·00
13	12·26	2·46	.....	.....	13·25	2·00
14	12·47	2·39	.....	.....	11·35	2·86
15	12·24	2·52	.....	.....	13·50	1·68
16	.....	.....	.....	.....	13.60	1.54
17	.....	.....	.....	.....	12.30	2.18
18	.....	.....	.....	.....	13.65	1.62
19	.....	.....	.....	.....	13.60	1.58
20	.....	.....	.....	.....	13.00	1.66
21	.....	.....	.....	.....	7.20	0.82
22	.....	.....	.....	.....	13.65	1.62
23	.....	.....	.....	.....	7.30	0.54
24	.....	.....	.....	.....	13.80	1.00
25	.....	.....	.....	.....	11.15	1.16
26	.....	.....	.....	.....	7.15	0.44
27	.....	.....	.....	.....	11.00	1.46
28	.....	.....	.....	.....	13.75	1.76
29	.....	.....	.....	.....	12.50	2.04
30	.....	.....	.....	.....	13.15	2.00
31	.....	.....	.....	.....	12.70	1.98
32	.....	.....	.....	.....	13.55	2.48

It is quite evident that Table IV shows a distinctly inferior grade of ginger. In the light of our knowledge that African ginger may yield less than 14 per cent of extractive matter, it would be going too far to conclude that all the samples reported in Table IV are adulterated, or even suspicious; but it is to be remembered that our experience with low grade gingers, vouched for as genuine, is extremely limited. I shall endeavour to secure data in regard to this class of gingers, as soon as possible.

Samples showing less than 10 per cent extractive are, however, so entirely exceptional that it is impossible to regard them as free from admixture of spent ginger. Under this head must be reckoned two samples reported in Bulletin No. 184 and four samples included in the present report. In all these cases the soluble ash is notably less than one per cent.

Adulteration of ginger by admixture of foreign matters is apparently giving place to adulteration by the use of spent ginger. This latter mode of adulteration is much more difficult of detection than the former; and the following statement appears to show that it is replacing the cruder one. Per cent of adulteration by admixture of foreign matter reported in:—

Bulletin No. 184	25	per cent.
" " 236	4.6	per cent.
" " 286	12.7	per cent.

The importance of the soluble ash number as a criterion of the genuineness of ginger is suggested by the following synopsis of results obtained with samples showing low percentages of soluble ash:—

—	Bulletin No. 184.		Bulletin No. 236.		Bulletin No. 286.	
	Soluble Ash.	Extract.	Soluble Ash.	Extract.	Soluble Ash.	Extract.
Ash below 1 per cent	0·79	9·11	0·86	16·56	0·54	6·80
	0·62	5·83	0·90	16·70	0·82	7·20
	.....	.....	.....	.....	0·54	7·30
	.....	.....	.....	.....	0·44	7·15
Ash below 1·25 per cent	.....	.....	1·14	10·88	1·18	13·10
	.....	.....	1·10	11·75	1·00	13·80
	.....	.....	.....	.....	1·16	11·15
	.....	.....	.....	.....	1·12	17·00

With three exceptions it will be seen that a soluble ash of less than 1.25 per cent is accompanied by a suspiciously low percentage of extractive.

The results of the present inspection may be summarized as follows:—

	Samples.
Found genuine	194
" adulterated with foreign matter	32
" " spent ginger	4
Published without comment	28
Doubtful	1
Total	259

It will be seen from the accompanying report that genuine ground ginger has been sold to our inspectors at prices (retail) varying from 25 to 40 cents per pound. None of even the most grossly adulterated samples are sold at lower prices. This fact tells against the retailer who certainly bought his stock-in-trade at a lower price than he would have paid for high grade goods.

We are often asked to blame the manufacturer rather than the small dealer; but in view of the fact above referred to, there can be no doubt that the retail dealer is thinking of his own profit, and not of furnishing cheaper goods to his customers, when he stocks up with lowest priced wares.

I beg to recommend publication of this report as Bulletin No. 286.

I have the honour to be, Sir,
Your obedient servant,

A McGILL,
Chief Analyst.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher, as given by Vendor. Manufacturer.	Furnisher.
			DISTRICT OF NOVA SCOTIA—				
1914.							
Jan. 15	Ground Ginger	53866	Nat. Drug & Chem. Co., Halifax, N. S.	1 lb..	30	Vendors.....	.....
" 19	" "	53867	John P. Mott & Co., Halifax, N. S.	1 " ..	16	"	.....
" 22	" "	53868	Canada Food Co., Halifax, N. S.	1 " ..	24	W. H. Shwartz & Sons, Halifax, N. S.	Manufacturers..
" 22	" "	53869	Brown Bros. & Co., Halifax, N. S.	1 " ..	40	S. H. Ewing & Sons, Montreal.	" ..
" 22	" "	53870	Wentzells Ltd., Halifax, N. S.	1 " ..	22	J. P. Matt & Co., Halifax, N. S.	" ..
" 23	" "	53871	Bauld Bros., Halifax, N. S.	¾ " ..	19	W. H. Schwartz & Sons, Halifax, N. S.	" ..
" 23	" "	53872	R. B. Adams, Halifax, N. S.	¾ .	25	J. P. Mott & Co., Halifax, N. S.	" ..
" 23	" "	53873	D. J. Stewart, Halifax, N. S.	¾ " ..	24	W. H. Schwartz, Halifax, N. S.	" .
" 23	" "	53874	R. S. McDonald, Halifax, N. S.	1 " ..	40	N. D. & C. Co., Halifax, N. S.	" ..
" 23	" "	53875	Jas. D. Walsh, Halifax, N. S.	1 " ..	40	" "	" .
" 23	" "	53876	Cahill & Co., Halifax, N. S.	1 " ..	40	Gorman Eckart Co., Toronto.	" ..
" 26	" "	53877	C. A. Barnstead, Halifax, N. S.	1 " ..	40	Lyman & Sons, Ltd., Montreal.	" ..
" 26	" "	53878	J. R. Rawley Estate, Halifax, N. S.	1 " ..	40	Ewing & Sons, Ltd., Montreal.	" ..
" 26	" "	53879	Corkum & Ritcey, Halifax, N.S.	¾ " ..	20	Gorman & Eckart, Toronto, Ont.	" ..
" 27	" "	53880	W. H. Schwartz & Sons. Halifax, N. S.	1 " ..	20	Vendors.....	" ..
" 29	" "	53881	H. E. Wilson, Windsor. N. S.	1 " ..	40	Lyman & Sons, Montreal.	" ..
" 30	" "	53882	G. A. Burbidge, Halifax, N. S.	1 " ..	40	N. D. C. Co., Halifax, N. S.	" ..
" 30	" "	53883	E. J. Butcher, Dartmouth, N. S.	1 " ..	40	" "	" ..
" 30	" "	53884	Kinleys Ltd., Halifax, N. S.	1 " ..	40	" "	" ..
" 30	" "	53885	R. J. Blackie, Halifax, N. S.	1 " ..	40	" "	" ..
			DISTRICT OF NEW BRUNSWICK—				
1913.							
Nov. 28	Ground Ginger	59333	G. E. Barbour Co., Ltd., St' John, N. B.	1 lb..	25	Vendors....	
Dec. 3	" "	59334	H. W. Cole, Ltd., St. John, N. B.	1 " ..	20	"	

GROUND GINGER.

Inspector's Report. (Is not an expression of Opinion.)	Results of Analysis.							No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Moisture.	Ash.			Cold Water Extractive.		Microscopical Examination.		
		Total.	Water Soluble.	Ratio.	Normal.	Calculated to dry Sample.			
R. J. WAUGH, INSPECTOR.									
	p. c.	p. c.	p. c.		p. c.	p. c.			
Sovereign Brand..	9·55	5·16	2·80	0·54	16·45	18·20	Ginger tissues and starch only.	53866	Genuine
.....	9·30	7·32	3·30	0·45	13·60	15·00	" "	53867	"
.....	10·07	3·58	2·12	0·59	16·00	17·80	" "	53868	"
.....	8·57	3·78	2·24	0·59	17·20	18·85	" "	53869	"
.....	8·92	5·86	2·52	0·43	14·35	15·75	" "	53870	"
.....	9·67	4·48	2·02	0·45	15·30	16·95	" "	53871	"
.....	8·65	6·56	3·68	0·56	14·80	16·20	" "	53872	"
.....	9·82	5·28	2·66	0·50	14·35	15·90	" "	53873	"
.....	8·02	4·06	2·74	0·67	17·50	19·00	" "	53874	"
.....	9·15	4·72	2·72	0·58	16·30	17·95	" "	53875	"
.....	8·75	3·78	2·52	0·67	16·70	18·30	" "	53876	"
.....	9·17	3·46	2·40	0·69	17·00	18·70	" "	53877	"
.....	9·50	5·10	2·56	0·50	16·05	17·75	" "	53878	"
.....	8·67	5·02	2·56	0·51	15·90	17·40	" "	53879	"
.....	10·32	6·66	2·94	0·44	13·90	15·50	" "	53880	"
.....	9·67	3·30	2·38	0·72	17·20	19·05	" "	53881	"
.....	9·22	4·36	2·44	0·56	16·60	18·25	" "	53882	"
.....	9·52	5·04	2·60	0·51	15·90	17·55	" "	53883	"
.....	9·80	4·68	2·40	0·51	16·25	18·00	" "	53884	"
.....	9·25	4·70	2·48	0·53	16·90	18·60	" "	53885	"
J. C. FERGUSON, INSPECTOR.									
Jamaica Ginger...	7·72	4·56	3·24	0·71	17·65	19·15	Ginger tissues and starch only.	59333	Genuine
.....	7·62	4·40	2·58	0·59	16·20	[illegible]·55	" "	59334	"

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher, as given by Vendor. Manufacturer.	Furnisher.
DISTRICT OF NEW BRUNSWICK—							
1913.							
Dec. 8	Ground Ginger	59335	Vanwart Bros., St. John, N.B.	1 lb..	40	Unknown	....
" 10	"	59336	Puddington, Wetmore, Morrison, Ltd., St. John, N.B.	1 " ..	25	Vendors	.....
" 17	"	59337	Hill Bros., St. Stephen, N.B.	1 " ..	30	Gorman, Eckhert & Co., London & Winnipeg, Can.	.....
" 17	"	59338	Yerxa Grocery Co., Ltd., St. Stephen, N.B.	1 " ..	25	White, Swan S. & C. Co., Ltd., Toronto, Ont.	....
1914.							
Jan. 6		59339	Currie Bros., Fredericton, N.B.	1 " ..	30	....	A. F. Randolph & Son.
" 6	"	59340	G. T. Whelpley, Fredericton, N.B.	1 " ..	40	Pure Gold Mfg. Co., Ltd., Toronto, Ont.	.....
" 7	"	59341	B. H. Smith & Sons, Woodstock, N.B.	1 " ..	35	S. H. & A. W. Ewing, Montreal.	.....
" 9	"	59342	H. N. Dickinson, Perth, N.B.	1 " ..	40	G. F. Barbour Co., Ltd., St. John, N.B.	.....
" 13	"	59343	King Asbell & Co., Sussex, N.B.	1 " ..	25	.....	G. S. DeForest & Sons, St. John, N.B.
" 14	"	59344	Geo. A. Robertson, Moncton, N.B.	1 " ..	30	S. H. Ewing & Sons, Montreal.	.....
" 14	"	59345	D. A. McBeath, Moncton, N.B.	1 " ..	40	Puddington, Wetmore, Morrison, Ltd., St. John, N.B.	....
" 16	"	59346	W. S. Loggie Co., Ltd., Chatham, N.B.	1 " ..	35	White, Swan S. & C. Co., Ltd., Toronto, Ont.	.....
" 16	"	59347	A. H. Marquis, Chatham, N.B.	1 " .	40	" ..	.....
DISTRICT OF QUEBEC—							
1913.							
Nov. 27	Ground Ginger	56006	L. Desgagne, 914 rue St. Valier, Quebec.	1 lb..	40	Unknown.	G. E. Hamel ...
" 28	"	56007	Emile Blouin, 30 rue Carillon, Quebec.	1 " ..	30	"	Turcotte & Frere
" 28	"	56008	Jos. Poulin, 2 ave Renaud, Quebec.	1 " ..	40	S. H. Ewing & Son, Montreal.	.....
" 28	"	56009	Louis Blouin, 81 ave Renaud, Quebec.	1 " ..	40	Unknown	Quebec Preserving Co.
" 28	"	56010	Alphonse Turgeon, 111 rue St. Germain, Quebec.	1 " ..	40	"	Derouin Frere & Rattray.

GROUND GINGER.

Inspector's Report. (Is not an expression of Opinion.)	Results of Analysis.							No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Moisture.	Ash.			Cold Water Extractive.		Microscopical Examination.		
		Total.	Water Soluble.	Ratio.	Normal.	Calculated to dry Sample.			
Continued.									
	p. c.	p. c	p. c.		p. c.	p. c.			
.....	7·15	5·24	2·40	0·46	12·50	13·45	Ginger tissues & starch only.	59335	
Signet Brand.....	7·10	4·26	[illegible]	0·60	17·20	18·50	" "	59336	Genuine.
Forest City Brand.	7·25	3·54	2·38	0·67	16·25	17·50	" "	59337	"
.....	7·25	3·64	2·58	0·71	18·20	19·60	" "	59338	"
.....	7·17	3·16	1·50	0·47	14·65	15·80	" "	59339	"
Jamaica Ginger...	7·77	3·34	2·36	0·71	17·80	19·30	" "	59340	"
.....	7·90	3·56	1·84	0·52	13·90	15·05	" "	59341	"
.....	8·02	4·62	2·60	0·56	16·45	17·90	" "	59342	"
.....	8·12	5·80	2·90	0·50	14·30	15·55	" "	59343	"
.....	7·42	3·70	2·54	0·69	18·55	20·05	" "	59344	"
Signet Brand....	8·42	4·26	2·18	0·51	12·30	13·45	" "	59345	
.....	7·85	3·30	2·32	0·70	16·80	18·20	" "	59346	Genuine.
.....	7·70	3·70	2·64	0·71	17·80	19·30	" "	59347	"
F. X. W. E. BELAND, INSPECTOR.									
.....	7·32	3·58	2·36	0·66	17·70	19·10	Ginger tissues & starch only.	56006	Genuine.
.....	7·45	3·82	2·38	0·62	15·80	18·15	" "	56007	"
.....	7·32	2·96	0·54	0·18	6·30	6·80	" "	56008	Extractive low Adulterated.
.....	7·20	4·42	1·76	0·40	15·35	16·55	" "	56009	Genuine.
.....	6·95	2·00	0·50	0·25	7·65	8·25	About 50% maize starch	56010	Adulterated.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.
DISTRICT OF QUEBEC—							
1913.							
Nov. 28	Ground Ginger	56011	V. Bedard, 112 rue St. Germain, Quebec.	1 lb	30	Unknown	Gagnon & Garent
Dec. 1	"	56012	Jos. Guimond, 179 rue Bayard, Quebec.	1 "	30	"	Unknown
" 2	"	56013	Jos. Peltier, 185 rue Massue, Quebec.	1 "	40	"	J. B. Reneaud & Cie.
" 2	"	56014	H. Paquet, 132 rue Montcalm, Quebec.	1 "	30	"	Unknown
" 2	"	56015	J. B. Routhier, 1023 Rue St. Valier, Quebec.	1 "	40	"	Bedard & Frere.
" 2	"	56016	J. F. Ratte, 1170 Rue St. Valier, Que.	1 "	40	"	Drouin, Frere & Rattray.
" 3	"	56017	T. Langlois, 1175 Rue St. Valier, Que.	1 "	30	"	Unknown
" 3	"	56018	C. G. Carpenter, 1271 Rue St. Valier, Quebec.	1 "	40	J. J. Duffy Co., 5 St. Paul St., Montreal.	Whitehead & Turner.
" 3	"	56019	J. Rousseau, 1289 Rue St. Valier, Quebec.	1 "	40	Unknown	Ewing, Montreal.
" 3	"	56020	Albert Faucher, 49 Rue St. Bernard, Quebec.	1 "	30	"	Turcotte & Frere.
DISTRICT OF EAST QUEBEC—							
Dec. 26	Ground Ginger	2402	D. Bouchard, St. Anne des Monts.	1 lb	35		Gagnon & Garent, Quebec.
" 26	"	2409	N. Pelletier, jr., Cap Chat.	1 "	35	W. E. Ewing, Montreal.	
" 27	"	2413	Felix Landri, Cap Chat.	1 "	35		S. H. Ewing & Son, Montreal.
" 29	"	2423	Paul Savard, Matane	1 "	35		Whitehead & Turner, Que.
" 30	"	2428	Ed. Ouillet, Rivière Blanche.	1 "	35	Unknown	
1914.							
Jan. 10	"	2435	C. Banville, St. Flavie	1 "	35		J. B. Dupuis, Quebec.
" 15	"	2460	H. Page, R. du Loup	1 "	30	Unknown	
" 15	"	2463	J. S. Proulx, R. du Loup.	1 "	40		Unknown
" 15	"	2468	J. L. Drolet, R. du Loup.	1 "	40		J. B. Reneaud, Quebec.

GROUND GINGER.

Inspector's Report. (Is not an expression of Opinion.)	Results of Analysis.							No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Moisture.	Ash.			Cold Water Extractive.		Microscopical Examination.		
		Total.	Water Soluble.	Ratio.	Normal.	Calculated to dry Sample.			

Concluded.

	p. c.	p. c.	p. c.		p. c.	p. c.			
. .	7·67	4·30	2·30	0·53	13·85	15·00	Ginger tissues & starch only.	56011	Genuine.
..	6·57	2·70	0·30	0·11	13·45	14·40	Consists principally of wheat flour coloured with turmeric, and about 25% of unidentified foreign material. Contains no ginger.	56012	Adulterated.
. .	7·85	4·80	2·34	0·49	13·85	15·00	Ginger tissues & starch only.	56013	Genuine.
....	7·10	6·46	2·14	0·33	11·15	12·00	" "	56014	
.	7·45	3·34	2·42	0·72	18·75	20·25	" "	56015	Genuine.
. ....	6·77	1·96	0·40	0·20	7·15	7·70	About 50% maize starch.	56016	Adulterated.
. . . .	7·50	5·84	0·72	0·12	10·60	11·45	About 25% rice starch.	56017	"
. . .	7·30	3·10	1·46	0·47	15·45	16·70	Ginger tissues and starch only.	56018	Genuine.
.... . .	7·52	3·36	1·50	0·45	12·20	13·20	" "	56019	
.....	7·05	3·24	0·32	0·10	6·10	6·55	About 40% rice starch and turmeric.	56020	Adulterated.

ALF. PELLETIER, INSPECTOR.

. . ..	8·32	4·24	2·32	0·55	13·55	14·75	Ginger tissues and starch only.	2402	Genuine.
.....	7·50	2·04	0·64	0·31	11·00	11·90	At least 75% wheat flour. Cayenne.	2409	Adulterated.
..... .	8·25	2·98	1·48	0·50	13·20	14·35	Ginger tissues and starch only.	2413	Genuine.
....	7·85	1·94	0·80	0·41	6·75	7·35	About 25% maize starch.	2423	Adulterated.
..	7·75	3·74	1·44	0·39	9·40	10·00	Ginger tissues and starch only.	2428	
...	7·65	1·70	0·30	0·18	4·85	5·25	About 25% maize starch.	2435	Adulterated.
.... .	7·62	4·50	2·58	0·57	15·05	16·30	Ginger tissues and starch only.	2460	Genuine.
....	7·82	4·42	1·82	0·41	11·85	12·85	About 20% wheat flour.	2463	Adulterated.
.....	8·02	3·38	2·32	0·69	18·15	19·95	Ginger tissues and starch only.	2468	Genuine.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher, as given by Vendor. Manufacturer.	Furnisher.
							DISTRICT OF QUEBEC—
1914.							
Jan. 15	Ground Ginger	2470	E. Michaud, R. du Loup.	1 lb.	35	.....	Ewing & Son, Montreal.
" 16	"	2474	Damien & Co.	1 "	40	.....	Whitehead & Turner, Quebec.
" 16	"	2476	N. Dubreuil, Fraserville.	1 "	40	.....	T. Langlois, R. du Loup.
" 16	"	2478	J. B. Michaud, Fraserville.	1 "	40	.....	S. H. Ewing, Montreal.
" 16	"	2479	L. H. Levasseur	1 "	40	.....	Pure Gold Mfg. Co., Toronto, Ont.
							DISTRICT OF THREE RIVERS—
1913.							
Nov. 24	Ground Ginger	59782	Alexis Martineau, St. Cleophas.	1 lb.	40	.....	Jos. Dufresne, Joliette.
Dec. 4	"	59788	Jos Mosseau, St. Felix	1 "	40	.....	" "
Nov. 22	"	59790	Wilfrid Brisette, St. Felix	1 "	40	.....	Chevalier & Pouliot, Joliette.
" 24	"	59791	Leonce Meville, St. Cleophas.	1 "	35	Herron Leblanc, Montreal.	.....
" 28	"	59793	J. T. Laferriere, St. Gabriel.	1 "	30	.....	Chevalier & Pouliot, Joliette.
" 29	"	59794	Ulric Desrochers, St. Gabriel.	1 "	40	.....	Magnan & Chevalier, Joliette.
Dec. 1	"	59795	Alfred Lavallee, Berthierville.	1 "	40	.....	Laporte Martin, Montreal.
" 1	"	59796	Dionis Tellier, Berthier.	1 "	40	S. H. Ewing & Sons, Montreal.	.....
" 1	"	59797	J. O. Davian, Berthier	1 "	40	Lyman Sons, Montreal.	.....
" 1	"	59798	O. Paquette, Berthierville	1 "	30	Kearney Bros., Montreal.	.....
" 1	"	59799	Arthur Caisse, Berthierville.	1 "	40	Laporte Martin, Montreal.	.....
" 1	"	59800	Beaudoin Pierre, Berthierville.	1 "	40	Hudon Hebert, Montreal.	.....
" 4	"	60924	Ernest Asselin, St. Felix.	1 "	40	Chevalier & Pouliot Joliette.	.....
" 4	"	60925	Arthur Tessier, St. Felix.	1 "	40	Unknown	.....
" 10	"	60926	Magnan Bros., Joliette.	1 "	40	J. V. Boudrias, Montreal.	.....

GROUND GINGER.

Inspector's Report. (Is not an expression of Opinion.)	Results of Analysis.							No. of Sample.	Remarks and Opinion of the Chief Analyst.
		Ash.			Cold Water Extractive.				
	Moisture.	Total.	Water Soluble.	Ratio.	Normal.	Calculated to dry Sample.	Microscopical Examination.		
Concluded.									
	p. c.	p. c.	p. c.		p. c.	p. c.			
.....	8·10	3·42	1·48	0·43	12·50	13·60	Ginger tissues and starch only.	2470	
.....	7·82	3·22	1·18	0·37	12·10	13·10	" "	2474	
.....	8·20	3·64	2·14	0·59	15·10	16·45	" "	2476	Genuine.
.....	7·62	3·54	2·46	0·69	16·90	18·30	" "	2478	"
.....	8·37	3·78	2·30	0·61	15·50	16·90	" "	2479	"

DR. V. P. LAVALLE, INSPECTOR.

.....	7·90	4·40	2·12	0·48	14·55	15·75	Ginger tissues and starch only.	59782	Genuine.
.....	7·30	2·26	1·56	0·69	13·10	14·15	About 50 p.c. maize and wheat flour.	59788	Adulterated.
.....	7·00	3·76	1·88	0·50	11·35	12·20	Ginger tissues and starch only.	59790	
.....	7 22	5·62	1·12	0·20	15·80	17·00	" "	59791	Genuine.
.....	7·02	3·80	1·88	0·50	11·25	12·10	" "	59793	
.....	7·47	4·98	1·26	0·25	16·35	17·70	" "	59794	Genuine.
.....	7·22	4·28	2·62	0·61	14·60	15·70	" "	59795	"
.....	7·67	2·82	1·26	0·45	11·75	12·75	" "	59796	
.....	8·00	5·54	2·00	0·36	11·85	12·90	" "	59797	
.....	7·40	4·10	2·62	0·64	16·40	17·70	" "	59798	Genuine.
.....	7·67	4 40	2·32	0·53	13 70	14·85	" "	59799	"
.....	7·47	3·24	1·40	0·43	12·95	14·00	About 25 p.c. maize and wheat flour.	59800	Adulterated.
.....	7·50	4·24	2·00	0·47	12·25	13·25	Ginger tissues and starch only.	60924	
.....	5 52	9·16	8·34	0 91	14·80	15·65	At least 75 p.c. foreign matter, consisting of wheat flour, olive stones and cayenne. Ash, consists principally of alkaline carbonate.	60925	Adulterated.
.....	7·15	4·80	2·20	0·46	13·65	14·70	Ginger tissues and starch only.	60926	Genuine.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher, as given by Vendor. Manufacturer.	Furnisher.
DISTRICT OF EASTERN TOWNSHIPS—							
1913.							
Dec. 4	Ground Ginger	2222	P. Boissonneault, St. Maurice de Thetford.	14 oz.	25	Unknown	Unknown
" 9	"	2223	T. Roberge, Sherbrooke	1 lb.	35	"	"
" 10	"	2224	P. Thibault, Victoriaville	1 "	30	Herron, Leblanc, Ltd., Montreal.	
" 11	"	2225	Johnston Bros., Lennoxville.	3 pkg.	24	" "	
" 15	"	2226	Pinaud & Freres, Drummondville.	1 lb.	40		
" 15	"	2227	W. E. Lewis, Knowlton	3 pkg.	30	The Pure Gold M'f'g. Co., Toronto, Ont.	
" 15	"	2228	L. H. Pibus, Knowlton	3 "	30	S. H. Ewing & Sons, Montreal.	
" 16	"	2229	D. L. G. Lavigne, Lawrenceville.	1 pkg.			Hudon, Hebert & Cie., Montreal.
" 16	"	2230	N. Hamel, Magog	1 lb.	40	Nat. Coffee & Spice Co., Montreal.	
" 17	"	2231	Hubert & Jolin, Waterloo, P.Q.	1 "	35	Unknown	Unknown
" 17	"	2232	R. W. Bradford, Granby	1 "	30	"	"
1914.							
Jan. 13	"	2233	Dallaire & Veilleux, St. Joseph Be.	3 pkg.	30	The Brodie Mfg. Co., Montreal.	
" 15	"	2234	J. Rancourt, St. Victor de Tring.	1 lb.	22	Unknown	Unknown
" 15	"	2235	Roberge & Fils, St. Evariste.	1 "	40		Whitehead & Turner, Quebec
" 20	"	2236	N. Prefontaine, Marieville	1 "	25		L. Chaput fils et Cie., Montreal.
DISTRICT OF MONTREAL—							
Jan. 13	Ground Ginger	58077	Longeway & Lewis, 320 St. Antoine St., Montreal	3 pkg.	15		S. H. Ewing & Sons, Montreal
" 13	"	58078	T. Coggins, 319 St. Antoine St., Montreal.	1 lb.	40		LeBlanc, Ltd.
" 13	"	58079	R. H. Fetterley, 305 St. Antoine St., Montreal.	1 "	40		S. J. Carter
" 15	"	58080	A. Desrochers, 7 Mountain St., Montreal.	1 "	40		Herron & Leblanc.
" 16	"	58081	Co-Operative Grocery Co., 293 St. Antoine St., Montreal.	1 "	40		"
" 16	"	58082	J. R. Lefebvre, 246 St. Antoine St., Montreal.	1 "	40		"
" 16	"	58083	E. Rochon, 697 Notre Dame St. West, Montreal.	1 "	40		Unknown

GROUND GINGER.

Inspector's Report. (Is not an expression of Opinion.)	Results of Analysis. Moisture.	Ash. Total.	Ash. Water Soluble.	Ash. Ratio.	Cold Water Extractive. Normal.	Cold Water Extractive. Calculated to dry Sample.	Microscopical Examination.	No. of Sample.	Remarks and Opinion of the Chief Analyst.
J. C. ROULEAU, INSPECTOR.									
	p. c.	p. c.	p. c.		p. c.	p. c.			
.....	7·37	5·58	2·86	0·51	10·50	11·35	Ginger tissues and starch only.	2222	
...	7·20	2·28	1·52	0·67	13·60	14·65	About 10 p.c. wheat and maize starch.	2223	Adulterated.
.....	7·27	2·32	1·46	0·63	12·80	13·80	About 25 p.c. maize and wheat flour.	2224	"
.....	6·67	3·22	1·30	0·40	13·85	14·85	About 50 p.c. wheat flour.	2225	"
.....	7·27	3·48	1·46	0·42	13·35	14·40	About 50 p.c. maize and wheat flour.	2226	"
.....	8·07	3·46	2·36	0·68	17·35	18·90	Ginger tissues and starch only.	2227	Genuine
.....	7·57	3·58	1·68	0·47	12·50	13·50	" "	2228	
.....	7·35	2·30	1·50	0·65	13·65	14·75	About 40% maize and wheat flour.	2229	Adulterated.
.....	7·07	3·76	1·70	0·45	13·70	14·75	Ginger tissues and starch only.	2230	Genuine.
.....	7·77	3·46	1·54	0·45	12·55	13·60	" " .	2231	
.....	7·05	2·08	1·44	0·69	13·20	14·20	About 40% maize and wheat flour.	2232	Adulterated.
.....	7·47	6·92	2·18	0·32	11·40	12·30	Ginger tissues and starch only.	2233	
.....	7·55	4·26	2·48	0·58	16·20	17·50	" " ..	2234	Genuine.
.....	8·17	3·02	1·44	0·48	14·40	15·70	" " .	2235	"
.....	7·40	5·60	2·52	0·45	13·55	14·65	" " ..	2236	"
D. J. KEARNEY, INSPECTOR.									
.....	7·37	4·00	1·86	0·46	15·40	16·60	Ginger tissues and starch only.	58077	Genuine.
.....	7·47	3·08	1·54	0·50	13·45	14·55	About 10% wheat and maize starch.	58078	Adulterated.
.....	7·25	4·24	2·32	0·55	16·35	17·65	Ginger tissues and starch only.	58079	Genuine.
.....	7·70	2·10	1·42	0·68	13·45	14·55	About 10% wheat and maize starch.	58080	Adulterated.
.....	8·05	3·42	2·46	0·72	18·10	19·90	Ginger tissues and starch only.	58081	Genuine.
.....	7·87	4·62	1·80	0·39	14·60	15·85	" " ..	58082	"
.....	7·70	3·06	1·56	0·51	13·30	14·40	About 10% wheat and maize starch.	58083	Adulterated.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher, as given by Vendor. Manufacturer.	Furnisher.
							DISTRICT OF MONTREAL—
1913.							
Jan. 20	Ground Ginger	58084	Archambault Frères, 747 Notre Dame St. West, Montreal	14 oz.	35	.....	Herron & Leblanc.
" 20	" ..	58085	U. Bousquet, 892 .. Dame St. West, Montreal	1 lb.	35	.....	" ..
" 20	" ..	58086	Geo. Rolland, 973 Notre Dame St. West, Montreal	1 "	40	.....	Lahue & Cloutier.
" 20	" ..	58087	J. A. Doré, 1286 Notre Dame St. West, Montreal.	14 oz.	35	.....	Hudon, Hebert & Cie.
" 21	" ..	58088	Robitaille & Gauthier, 2 Craig St. West, Montreal.	1 lb.	40	.....	J. V. Boudrias, Ltd.
" 23	" ..	58089	J. Clement, 70 Vinet St., Montreal.	1 "	40	.....	Hudon & Orsali.
" 23	" ..	58090	V. Viau, 39 Vinet St., Montreal.	1 "	35	.....	S. H. Ewing & Sons.
" 23	" ..	58091	H. Legault, 176 Duvernay St., Montreal.	1 "	40	.....	Herron & Leblanc.
							DISTRICT OF VALLEYFIELD—
Dec. 15	Ground Ginger	58545	J. Boyle, Alexandria, Ont.	1 lb.	40	.....	.....
" 15	" ..	58546	P. A. Huot & Son, Alexandria, Ont.	1 "	35	.....	.....
" 15	" ..	58547	Augusta Lalonde, Alexandria, Ont.	1 "	40	S. H. Ewing & Sons.	.....
" 29	" ..	58548	Peter McLaurin, Vankleek Hill, Ont.	1 "	30	.....	.....
" 29	" ..	58549	P. T. McLaurin, Vankleek Hill, Ont.	1 "	40	.....	.....
" 29	" ..	58550	George Chalmers, Vankleek Hill, Ont.	1 "	25	White Swan S. & C. Co., Ltd.	.....
" 29	" ..	58551	J. C. Brown, Vankleek Hill, Ont.	1 "	30	.....	.....
" 29	" ..	58552	John Wilson, Vankleek Hill, Ont.	1 "	40	.....	.....
" 30	" ..	58553	D. Seward, Hawkesbury, Ont.	1 "	35	.....	.....
" 30	" .	58554	A. M. Steele, Hawkesbury, Ont.	3 pkgs	30	S. H. Ewing & Sons.	.....
" 30	" ..	58555	Gilbert & Desjardine, Hawkesbury, Ont.	1 lb.	25	.....	.....
" 30	" ..	58556	A Legault, Hawkesbury, Ont.	1 "	38	.....	.....
" 30	" ..	58557	A. Dumoulin, Hawkesbury, Ont.	1 "	35	.....	.....
" 30	" .	58558	A. St. Jules, Hawkesbury' Ont.	1 "	35	.....	.....
" 30	" ..	58559	John Lecours, Hawkesbury, Ont.	1 "	40	.....	.....

GROUND GINGER.

Inspector's Report. (Is not an expression of Opinion.)	Results of Analysis: Moisture.	Ash: Total.	Ash: Water Soluble.	Ash: Ratio.	Cold Water Extractive: Normal.	Cold Water Extractive: Calculated to dry Sample.	Microscopical Examination.	No. of Sample.	Remarks and Opinion of the Chief Analyst.
Continued.									
	p. c.	p. c.	p. c.		p. c.	p. c.			
.....	7·50	3·30	1·62	0·49	12·65	13·65	Ginger tissues and starch only.	58084	
.....	7·52	3·24	1·28	0·40	12·95	14·00	About 50% m[illegible] wheat f[illegible]	58085	Adulterated.
.....	7·80	3·16	1·58	0·50	12·55	13·60	Ginger [illegible] and starch	58086	
After purchase of sample, vendor said it was compound.	6·92	6·00	2·78	0·46	13·60	14·60	" " ..	58087	Genuine.
.....	7·27	3·26	2·06	0·63	16·65	17·95	About 10% wheat flour.	58088	Adulterated.
.....	7·27	2·48	1·62	0·65	14·35	15·50	" 25% " ..	58089	"
.....	7·67	4·32	2·02	0·47	12·90	14·00	Ginger tissues and starch only.	58090	Genuine.
.....	7·77	3·38	1·40	0·41	13·10	14·20	About 50% maize and wheat flour.	58091	Adulterated.
J. J. COSTIGAN, ACTING INSPECTOR.									
.....	7·87	3·38	2·24	0·66	17·30	18·75	Ginger tissues and starch only.	58545	Genuine.
.....	7·05	4·26	3·08	0·72	17·60	18·95	" " ..	58546	"
.....	7·35	4·12	2·68	0·65	18·50	20·00	" " ..	58547	"
.....	7·57	2·64	1·74	0·66	14·90	16·15	About 5% maize starch	58548	Doubtful.
.....	7·80	3·32	2·32	0·70	18·35	19·90	Ginger tissues and starch only.	58549	Genuine.
.....	7·95	3·64	2·64	0·72	17·80	19·35	" " ..	58550	"
.....	7·52	3·94	1·66	0·42	12·00	13·00	" " ..	58551	
.....	8·05	5·38	3·10	0·58	13·00	14·15	" " ..	58552	Genuine.
.....	7·72	5·28	2·98	0·56	13·90	15·05	" " ..	58553	"
.....	8·22	2·82	0·82	0·29	6·60	7·20	" " ..	58554	Extractive low Adulterated.
.....	7·82	1·36	0·56	0·41	10·20	11·05	At least about 75% wh[illegible] flour and for[illegible] [illegible] cayenne.	58555	Adulterated.
.....	7·57	2·14	1·48	0·69	13·50	14·60	About 10, [illegible] and maize starch	58556	"
.....	8·07	2·18	1·12	0·51	11·30	12·30	About 15% wheat flour.	58557	"
.....	7·75	3·10	1·84	0·59	15·90	17·25	Ginger tissues and starch only	58558	Genuine.
.....	7·90	6·02	3·18	0·53	13·85	15·00	"	58559	"

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher, as given by Vendor. Manufacturer.	Furnisher.
DISTRICT OF ARGENTEUIL, TWO MOUNTAINS AND TERREBONE—							
1913.							
Dec. 5	Ground Ginger	2322	Wilfrid Mayer, St. Jerome, P. Q.	1 lb.	35	J. W. Beaudrias, Montreal	....
" 19	"	2323	G. Cote, St. Agathe des Monts.	1 "	40	Chaput et fils	....
" 19	"	2325	R. Touchette, St. Agathe des Monts, Que.	1 "	40	Laporte et Martin	....
DISTRICT OF OTTAWA—							
Dec. 9	Ground Ginger	59244	P. A. Gagne, South Indian.	1 lb.	35	Unknown	Litster Co., Toronto, Ont.
" 9	"	59245	A. J. Leveille, South Indian.	1 "	30	"	S. H. Ewing & Sons, Montreal.
" 9	"	59246	W. C. Edwards Co., Rockland.	1 "	40	"	Dalleys, Hamilton.
" 10	"	59247	G. F. Hodgins Co., Shawville.	1 "	35	Pure Gold Mfg. Co., Ltd., Toronto, Ont.	Mfrs
" 10	"	59248	W. A. Hodgins, Shawville.	1 "	35	....	F. J. Castle Co., Ottawa.
" 11	"	59249	Geo. Patterson, Wakefield.	1 "	35	....	Provost & Allard, Ottawa.
" 11	"	59250	Alex. Maclaren, Wakefield.	1 "	30	Unknown	....
" 16	"	59251	The Civil Service Co-op. Supply Asso'cn., Ottawa.	1 "	40	"	....
" 16	"	59252	R. Clark Cummings, Cummings Bridge.	1 "	40	....	S. J. Major, Ltd., Ottawa.
" 16	"	59253	Emond Co., Eastview	1 "	30	....	Jos. Grant, Ottawa.
" 16	"	59254	D. Deguire, Eastview	1 "	40	....	S. J. Major, Ltd., Ottawa.
" 16	"	59255	Jos. Durocher, Eastview	1 "	30	....	"
" 17	"	59256	T. W. Collins, Friel St., Ottawa.	1 "	40	C. H. Cochrane & Co., Ottawa.	
" 18	"	59257	D. Sanche, 77 Wall St., Hull, P.Q.	1 "	25	J. M. Lowes Co., Toronto, Ont.	....
" 18	"	59258	M. J. Laverdure, Albert St., Hull, P.Q.	1 "	40	Litster Pure Food Co., Toronto, Ont.	....

GROUND GINGER.

Inspector's Report. (Is not an expression of Opinion.)	Results of Analysis.								Remarks and Opinion of the Chief Analyst.
	Moisture.	Ash.			Cold Water Extractive.		Microscopical Examination.	No. of Sample.	
		Total.	Water Soluble.	Ratio.	Normal.	Calculated to dry Sample.			
N. CADIEUX, TEMPORARY INSPECTOR.									
	p. c.	p. c.	p. c.		p. c.	p. c.			
	7·87	3·18	1·62	0·51	12·60	13·65	Ginger tissues and starch only.	2322	
	6·42	3·20	2·33	0·72	16·25	17·30	" " ..	2323	Genuine.
	7·60	5·40	2·90	0·54	14·35	15·50	" " ..	2325	"
J. A. RICKEY, INSPECTOR.									
	7·52	4·54	2·80	0·62	13·85	15·00	Ginger tissues and starch only.	59244	Genuine.
	7·25	2·90	0·54	0·19	6·75	7·30	" "	59245	Extractive low adulterated.
	7·15	4·22	2·50	0·59	13·70	14·75	" "	59246	Genuine.
	7·50	4·02	1·92	0·48	13·35	14·45	" "	59247	"
	7·20	3·44	1·00	0·29	12·80	13·80	" "	59248	
	7·15	4·82	2·18	0·45	13·70	14·75	" "	59249	Genuine.
	7·22	3·64	2·62	0·72	17·80	19·20	" "	59250	"
	7·85	2·64	1·16	0·44	10·30	11·15	" "	59251	
	7·20	2·88	0·44	0·15	6·60	7·15	" "	59252	Extractive low Adulterated.
	7·37	4·12	1·46	0·36	10·20	11·00	" "	59253	
	7·67	4·62	2·22	0·48	14·95	16·20	" "	59254	Genuine.
	7·75	5·36	1·76	0·33	12·65	13·75	" "	59255	
	7·80	4·34	2·22	0·51	15·60	16·90	" "	59256	Genuine.
	6·77	2·52	0·70	0·28	11·65	12·50	At least 75% wheat flour and foreign tissues. Cayenne.	59257	Adulterated.
	7·00	6·18	2·48	0·40	15·40	16·55	Ginger tissues and starch only.	59258	Genuine.

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher, as given by Vendor. Manufacturer.	Furnisher.
						DISTRICT OF KINGSTON—	
1913.							
Dec. 9	Ground Ginger	61033	W. H. Milling, Napanee..	1 lb..	25	.....	Geo. Robertson & Son, Kingston.
" 9	"	61034	G. W. Boyes, Napanee ..	1 " ..	40	.....	J. M. Lowes Co., Toronto.
" 9	"	61035	W. D. Nickle, Napanee..	1 " ..	40	.....	Todhunter & Mitchell, Toronto.
" 9	"	61036	H. C. Hampton, Belleville	1 " ..	40	.....	Walmsley Co., Belleville.
" 9	"	61037	S. R. Arite, Belleville....	1 " ..	40	.....	J. Sloan Co., Belleville.
" 10	"	61038	W. Brunet, Cobourg....	1 " ..	40	.....	Todhunter & Mitchell, Toronto.
" 10	"	61039	E. Guillet, Cobourg.	1 " ..	40	.....	E. B. Blain, Toronto.
" 10	"	61040	Hooey & Son, Cobourg...	1 " ..	40	.....	Todhunter & Mitchell, Toronto.
" 10	"	61041	W. D. Stephens, Port Hope.	1 " ..	40	.....	" ..
" 10	"	61042	F. Rosevear, Port Hope..	1 " ..	40	.....	Perkins Ince Co., Peterboro.
" 11	Ground Ginger	61043	T. A. Fisher, Lindsay...	1 " ..	40	.....	E. B. Blain, Toronto.
" 11	"	61044	A. L. Campbell, Lindsay.	1 " ..	40	.....	Pure Gold, Toronto.
" 11	"	61045	Adams Bros., Lindsay...	1 " ..	40	.....	J. M. Lowes Co., Toronto.
" 11	"	61046	J. Brown, Lindsay.....	1 " .	40	.....	" ..
" 11	"	61080	A. Pearson, Peterboro....	1 " ..	40	.....	T. Kinner, Peterboro.
						DISTRICT OF TORONTO—	
Dec. 22	Ground Ginger	57557	C. Barrett, 964 Bloor st. west, Toronto.	1 lb..	30	.....	Unknown .....
" 22	"	57558	J. Kelday, 366 Ossington ave., Toronto.	1 "	40	.....	Todhunter, Mitchell Co., Toronto.
" 22	"	57559	R. Penney, 195 Danforth ave., Toronto.	1 "	35	.....	Unknown .....
" 22	"	57560	A. Sullivan, 2035 Yonge st. north, Toronto.	1 "	25	.....	" .....
" 30	"	57561	W. Howell, 2377 Queen st. east, Toronto.	1 "	35	.....	" .....
" 30	"	57562	J. J. Hall, 1628 Queen st. east, Toronto.	10 oz.	20	.....	F. W. Humphrey, Toronto.
" 31	"	57563	M. Miceli, 28 Arthur st., Toronto.	1 lb..	35	Dalton Bros., Toronto.	Unknown .....
" 31	"	57564	W. J. Hosken, 120 Arthur st., Toronto.	1 "	35	The J. M. Lowes Co., Ltd., Toronto.	.....
" 31	"	57565	Wm. McKenzie, 1427 Yonge st., Toronto.	1 "	35	.....	Unknown .....
" 31	"	57566	Wm. Cole, 246 Ave. Road, Toronto.	1 "	40	.....	" .....

GROUND GINGER.

Inspector's Report. (Is not an expression of Opinion.)	Results of Analysis.							No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Moisture.	Ash.			Cold Water Extractive.		Microscopical Examination.		
		Total.	Water Soluble.	Ratio.	Normal.	Calculated to dry Sample.			
JAS. HOGAN, INSPECTOR.									
	p. c.	p. c.	p. c.		p. c.	p. c.			
.....	7·72	4·96	2·20	0·44	14·00	15·15	Ginger tissues and starch only.	61033	Genuine.
.....	7·80	4·32	2·34	0·54	14·45	15·65	" "	61034	"
.....	7·82	3·52	2·36	0·67	18·05	19·55	" "	61035	"
.....	6·97	5·62	2·48	0·44	14·25	15·35	" "	61036	"
.....	7·17	5·00	2·40	0·48	14·15	15·25	" "	61037	"
.....	7·35	3·52	2·30	0·65	17·80	19·45	" "	61038	"
.....	8·10	4·14	2·10	0·51	13·15	14·30	" "	61039	"
.....	7·25	3·66	2·38	0·65	17·65	19·05	" "	61040	"
.....	7·50	3·38	2·20	0·65	16·50	17·85	" "	61041	"
.....	7·45	3·48	2·28	0·65	18·40	19·90	" "	61042	"
.....	7·65	3·46	2·44	0·70	18·30	19·85	" "	61043	"
.....	7·75	3·50	2·54	0·73	18·40	19·95	" "	61044	"
.....	7·60	4·10	2·48	0·60	15·40	16·65	" "	61045	"
.....	7·55	2·04	1·08	0·53	9·20	10·00	About 50% maize and wheat flour.	61046	Adulterated.
.....	7·35	6·66	3·32	0·50	13·30	14·35	Ginger tissues & starch only.	61080	Genuine.
H. J. DAGER, INSPECTOR.									
.....	7·80	3·84	2·90	0·75	19·20	20·80	Ginger tissues & starch only.	57557	Genuine.
.....	8·37	5·66	2·74	0·48	14·10	15·35	" "	57558	"
.....	8·40	3·68	2·42	0·66	17·50	19·10	" "	57559	"
.....	8·52	4·54	2·26	0·50	15·20	16·60	" "	57560	"
.....	8·25	3·58	2·41	0·67	16·80	18·30	" "	57561	"
.....	7·75	3·38	2·40	0·71	15·85	17·15	" "	57562	"
Pure Ginger.....	8·25	4·70	2·14	0·46	13·10	14·25	" "	57563	"
.....	8·15	4·52	2·24	0·50	14·90	16·25	" "	57564	"
.....	7·95	3·42	2·42	0·71	16·85	18·35	" "	57565	"
.....	7·95	3·26	2·32	0·71	16·75	18·20	" "	57566	"

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher, as given by Vendor. Manufacturer.	Furnisher.
			DISTRICT OF TORONTO—				
1914.							
Jan. 2	Ground ginger	57567	J. S. Kyle, Oshawa.. ...	1 lb..	35	Todhunter, Mitchell Co., Toronto.	.....
" 2	"	57568	Engle Breslin, Oshawa..	1 "	40	....	Thos. Kinner & Co., Toronto.
" 2	"	57569	J. E. Beaton, " ...	1 "	40	Todhunter, Mitchell Co., Toronto.	... .
" 2	"	57570	S. F. Coulin, " ...	1 "	40	....	McDowell & Moms, Oshawa
" 2	"	57571	C. A. Powell, " ...	1 "	40	Todhunter, Mitchell Co., Toronto.	.....
1913.							
Dec. 26	"	57582	J. D. Cassil, 2713 Yonge st. north, Toronto.	1 "	40	....	Canada Brokerage Co., Ltd., Toronto.
			DISTRICT OF HAMILTON—				
Dec. 2	Ground Ginger	59865	Lloyd Bros., Owen Sound	1 lb..	35	....	Dalton Bros., Toronto.
" 3	"	59866	J. McKibbon, Owen Sound	1 " ..	40	... .	McLaughlin & Sons Co., Ltd.
" 4	"	59867	J. Kerr, Palmerston.....	1 " ..	30	.....	Unknown .....
" 5	"	59868	John Hawkins, Guelph...	1 " ..	40	....	" .....
" 5	"	59869	J. C. Hadden, Guelph....	1 " ..	40	....	" .....
" 9	"	59870	MacQueen & Co., Paris ..	¾ " ..	25	....	Jas. Lumbers & Co., Toronto.
" 10	"	59871	David Katz, 31 Pearl st., Brantford.	1 " ..	25	....	Unknown.. ...
" 10	"	59872	L. J. Klinkhamer, 138 Albion st., Brantford.	1 " ..	30	....	Brantford Coffee & Spice Co., Brantford.
" 11	"	59873	Strang Bros., 238 Bay st., Hamilton.	¾ " ..	25	....	Unknown.....
" 11	"	59874	J. Treister, 205 Caroline st., Hamilton.	1 " ..	25	.....	F. F. Dalley Co., Ltd., Hamilton
" 12	"	59875	Eric Jamieson, Wilson & Fairleigh sts., Hamilton	1 " ..	45	.....	McLarens, Ltd., Hamilton.
" 12	"	59876	Sanderson Bros., 603 Barton st., east, Hamilton.	1 " ..	40	.....	W. H. Gillard & Co., Hamilton
" 12	"	59877	Post & Stewart, 591 Barton st., east, Hamilton.	1 " .	40	Young, Windfield & Co., Hamilton	.....
" 12	"	59878	Geo. Dibden, 482 Wentworth st., north. Hamilton.	1 " ..	40	....	G. E. Bristol & Co., Hamilton.
" 12	"	59879	G. E. Baker, 119 Barton st., east, Hamilton.		30	Young, Windfield & Co., Hamilton	.....

GROUND GINGER.

Inspector's Report. (Is not an expression of Opinion.)	Results of Analysis.							No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Moisture.	Ash.			Cold Water Extractive.		Microscopical Examination.		
		Total.	Water Soluble.	Ratio.	Normal.	Calculated to dry Sample.			
Concluded.									
	p.c.	p.c.	p.c.		p.c.	p.c.			
.....	7·95	3·48	2·26	0·65	16·30	17·70	Ginger tissues & starch only.	57567	Genuine.
.....	8·50	2·22	2·20	0·52	15·80	17·25	" "	57568	"
Labelled, Todhunter's Pure Ginger	8·50	3·48	2·46	0·70	17·70	19·35	" "	57569	"
.....	8·22	3·90	2·04	0·52	13·70	14·90	" "	57570	"
.....	8·30	4·00	2·30	0·57	16·65	18·15	" "	57571	"
.....	8·47	4·10	2·28	0·35	16·25	17·75	" "	57582	"

H. J. DAGER, ACTING INSPECTOR.

.....	6·97	1·98	1·28	0·65	10·10	10·85	About 35% maize starch and some wheat starch.	59665	Adulterated.
.....	7·65	4·16	2·04	0·49	11·55	12·50	Ginger tissues and starch only.	59666	
.....	7·42	5·16	2·74	0·53	15·70	16·95	" "	59667	Genuine.
.....	7·20	2·94	2·02	0·69	17·50	18·85	" "	59668	"
.....	7·30	2·94	2·30	0·78	18·05	19·45	" "	59669	"
Select Ginger.....	7·35	3·42	2·16	0·64	17·25	18·65	" "	59670	"
.....	6·90	3·32	1·70	0·51	11·00	12·45	About 25% wheat flour	59671	Adulterated.
.....	7·37	2·96	2·02	0·68	17·25	18·65	Ginger tissues and starch only.	59672	Genuine.
.....	7·42	3·38	2·38	0·70	16·30	17·60	" "	59673	"
.....	7·25	3·50	2·00	0·57	15·80	17·05	" "	59674	"
.....	8·10	4·18	2·00	0·48	12·10	13·15	" "	59675	
.....	7·80	5·08	2·58	0·51	14·30	15·50	" "	59676	Genuine.
.....	7·55	4·26	2·36	0·55	14·15	15·35	" "	59677	"
.....	7·15	4·30	2·30	0·53	14·95	16·10	" "	59678	"
.....	7·25	3·54	2·38	0·67	17·39	18·55	" "	59679	"

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher, as given by Vendor. Manufacturer.	Furnisher.
							DISTRICT OF WINDSOR—
1913.							
Dec. 12	Ground Ginger	53603	Wm. J. O'Neil, Clinton..	1 lb.	40	Todhunter & Mitchell, Toronto.	.....
" 12	"	53606	H. Wiltse, Clinton.....	1 " ..	40	White Swan, Toronto.	.....
" 9	"	54456	W. R. Butcher, St. Mary's	3 pkgs	25	McLarens, Ltd., Hamilton.	.....
" 9	"	54458	Geo. Smith, St. Mary's ..	1 lb.	40	Gorman, Eckert Co., London.	.....
" 9	"	54460	F. W. Hutton, St. Mary's	1 " ..	40	F. F. Dalley Co., Hamilton.	.....
" 9	"	54461	J. P. Rogers Co., St. Mary's,	1 " ..	30	" "	.....
" 10	"	54467	A. G. Lloyd, Stratford...	1 " ..	40	Unknown.....	.....
" 10	"	54475	Walsh Bros., Stratford...	1 " ..	40	Unknown	.....
" 10	"	54478	A. Beattie & Co., Stratford.	3 pkgs	30	McLarens, Hamilton.	.....
" 11	"	54484	Sproat & Finnegan, Seaforth.	1 lb..	30	Gorman, Eckert Co., London.	.....
" 11	"	54486	R. L. Clark, Seaforth....	2 "	23	"	.....
" 11	"	54494	Cardno Bros., Seaforth...	1 "	40	"	.....
" 12		54498	J. P. Sheppard & Co., Clinton.	1 "	40	"	.....
							DISTRICT OF MANITOBA—
Dec. 9	Ground Ginger	53213	Campbell Bros. & Wilson, Winnipeg.	1 lb..	Nil	.....	.....
" 9	"	53214	Blue Ribbon, Ltd., Winnipeg.	1	30	.....	.....
" 9	"	53215	The White Star Mfg. Co., Winnipeg.	1 "	14	.....	.....
" 9	"	53216	Gold Standard Mfg. Co., Winnipeg.	1 "	....	.....	.....
" 10	"	53218	The Jobin, Marrin Co., Ltd., Winnipeg.	1 "	25	.....	.....
" 11	"	53219	The Todhunter, Mitchell Co., Winnipeg.	1 "	....	.....	.....
" 12	"	53220	H. Thompson, 577 Sargent ave.' Winnipeg.	1 "	30	.....	.....
" 12	"	53221	Charles Bros.. A65 Sargent ave., Winnipeg.	1 "	40	.....	.....
" 15	"	53222	Horners Busy Corner, Brandon.	1 "	40	.....	The Codville Co., Brandon.
" 15	"	53223	J. F. Price, Brandon....	1 "	40	.....	.....
" 16	"	53224	McDonald & Forman, Brandon.	1 "	40	.....	Gold Standard Mfg. Co., Winnipeg.

GROUND GINGER.

Inspector's Report. (Is not an expression of Opinion.)	Results of Analysis. Moisture.	Ash. Total.	Ash. Water Soluble.	Ash. Ratio.	Cold Water Extractive. Normal.	Cold Water Extractive. Calculated to dry Sample.	Microscopical Examination.	No. of Sample.	Remarks and Opinion of the Chief Analyst.
JNO. TALBOT, INSPECTOR.									
	p. c.	p. c.	p. c.		p. c.	p. c.			
.....	7·57	3·38	2·50	0·74	17·60	19·05	Ginger tissues and starch only.	53603	Genuine.
.....	6·87	3·56	2·58	0·72	19·15	20·60	" "	53606	"
Labelled. McLarens' Ginger.	7·37	4·14	2·48	0·60	16·40	17·70	" "	54456	"
	6·90	3·82	2·64	0·69	17·40	18·70	" "	54458	"
.....	7·12	3·52	2·06	0·58	14·80	15·95	" "	54460	"
.....	7·00	4·30	1·98	0·46	11·80	12·70	" "	54461	
..	6·97	3·72	2·62	0·70	17·00	18·25	" "	54467	Genuine.
.....	7·00	5·20	2·90	0·56	14·90	16·05	" "	54475	"
Labelled, McLarens Invincible. Ground Jamacia Ginger.	8·02	4·60	2·26	0·49	15·60	16·95	" "	54478	"
.....	7·22	4·54	2·56	0·56	15·85	17·05	" "	54484	"
.....	6·95	4·02	2·44	0·61	16·40	17·65	" "	54486	"
.....	7·52	3·44	2·42	0·70	16·05	17·35	" "	54494	"
.....	7·40	4·90	2·58	0·53	16·45	17·75	" "	54496	"
A. C. LARIVIERE, INSPECTOR.									
Royal Shield Brand	7·42	7·04	3·28	0·47	16·40	17·70	Ginger tissues & starch only.	53213	Genuine.
Blue Ribbon "	7·72	3·84	2·28	0·60	15·50	16·80	" "	53214	"
.....	7·77	5·28	2·50	0·47	16·25	17·60	" "	53215	"
.....	8·15	5·56	2·92	0·52	16·55	18·05	" "	53216	"
Challenge Ginger.	7·92	3·66	2·40	0·65	17·20	18·65	" "	53218	"
.....	7·90	3·98	2·00	0·50	13·90	15·10	" "	53219	"
.....	7·75	4·14	2·22	0·53	14·95	16·20	" "	53220	"
.....	7·22	5·74	2·82	0·49	15·75	17·00	" "	53221	"
.....	7·75	4·32	2·32	0·54	15·20	16·50	" "	53222	"
.....	8·12	3·68	2·56	0·71	18·90	20·55	" "	53223	"
.....	7·95	4·92	2·18	0·44	14·70	16·00	" "	53224	"

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost.		Name and Address of Manufacturer or Furnisher, as given by Vendor.	
				Quantity.	Cents.	Manufacturer.	Furnisher.
DISTRICT OF MANITOBA—							
1913.							
Dec. 16	Ground Ginger	53225	Sutherland & Robertson, Brandon.	1 lb..	40	.....	.....
" 18	"	53226	J. Donnelly, Norwood Grove.	1 "	40	.....	Campbell Bros. & Wilson, Winnipeg.
" 18	"	53227	W. J. Kennedy, Norwood Grove.	1 "	40	.....	.....
" 19	"	53280	E. S. Harvey, Portage ave., Winnipeg	½ "	30	.....	.....
DISTRICT OF ALBERTA—							
Dec. 1	Ground Ginger	51845	Hallier & Aldridge, Edmonton.	3 tins.	30	White Star M'f'g. Co., Winnipeg.	.....
" 1	"	51846	J. H. Morris & Co., Edmonton.	1 lb..	40	.....	.....
" 2	"	51847	The Acme Co., Edmonton	3 tins.	30	Gorma., Eckhart & Co., London, Ont.	.....
" 2	"	51848	A. Macdonald & Co., Edmonton.	3 "	20	White Star M'f'r. Co., Winnipeg.	.....
" 2	"	51849	Revillon, wholesale, Edmonton.	3 "	20	Gorman, Eckhart & Co., London, Ont.	.....
" 3	"	51850	Hudson Bay Co., Edmonton.	3 "	30	.....	Vendors.....
" 4	"	51851	Montgomery & West, Wetaskiwin.	3 "	30	Georgeson & Co., Calgary.	.....
" 4	"	51852	Abousaffy & Murray, Wetaskiwin.	3 "	30	" "	.....
" 5	"	51853	F. E. McLeod, Lacombe..	1 lb..	35	A. Macdonald & Co., Edmonton.	.....
" 11	"	51854	S. G. Freeze, Calgary.. .	3 tins.	25	Georgeson & Co., Calgary.	.....
" 11	"	51855	Hudson Bay Co., Calgary	3 "	25	.....	Vendors.....
" 12	"	51856	Pryce-Jones, (Canada) Ltd., Calgary.	3 "	30	Imperial Spice Co., Hamilton.	.....
" 12	"	51857	John Irwin & Co., Calgary.	1 lb..	40	Georgeson & Co., Calgary.	.....
" 12	"	51858	J. A. Nolan, Calgary....	3 tins.	30	" "	.....
" 13	"	51859	Georgeson & Co., Calgary	3 "	30	Vendors.....	.....

GROUND GINGER.

Inspector's Report. (Is not an expression of Opinion.)	Results of Analysis.							No. of Sample.	Remarks and Opinion of the Chief Analyst.
		Ash.			Cold Water Extractive.				
	Moisture.	Total.	Water Soluble.	Ratio.	Normal.	Calculated to dry Sample.	Microscopical Examination.		
Concluded.									
	p.c.	p.c.	p.c.		p.c.	p.c.			
.....	8·22	5·08	2·48	0·49	15·05	16·40	Ginger tissues & starch only.	53225	Genuine.
Royal Shield Brand	8·02	3·84	2·26	0·59	15·30	16·60	.....	53226	"
.....	8·17	3·98	2·08	0·52	14·00	15·25	.....	53227	"
.....	8·12	4·00	2·00	0·50	14·05	15·30	.....	53280	"

A. W. R. MARKLEY, INSPECTOR.

.....	8·15	6·88	2·60	0·38	15·20	16·55	Ginger tissues and starch only.	51845	Genuine.
.....	7·32	5·88	2·54	0·43	16·60	17·90	" "	51846	"
.....	9·42	5·04	2·76	0·55	16·30	17·95	" "	51847	"
.....	8·60	6·78	2·54	0·38	15·30	16·75	" "	51848	"
.....	9·12	5·06	2·46	0·49	15·00	16·50	" "	51849	"
.....	8·65	4·90	2·52	0·52	15·35	16·80	" "	51850	"
.....	9·17	4·70	2·08	0·44	16·55	18·20	" "	51851	"
.....	9·52	6·62	2·88	0·44	15·40	17·00	" "	51852	"
.....	7·32	5·84	1·84	0·32	14·90	16·05	" "	51853	"
.....	7·40	5·24	2·14	0·41	16·10	17·40	" "	51854	"
.....	6·85	3·74	2·50	0·67	16·65	17·85	" "	51855	"
.....	7·42	3·42	2·04	0·60	16·25	17·50	" "	51856	"
.....	7·05	5·22	2·90	0·57	16·85	18·25	" "	51857	"
.....	6·95	4·86	2·20	0·45	16·70	17·95	" "	51858	"
.....	7·25	5·16	2·46	0·48	16·30	17·55	" "	51859	"

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher, as the case may be. Manufacturer.	Furnisher.
DISTRICT OF ROCKY MOUNTAINS—							
1913.							
Dec. 2	Ground Ginger	50001	R. G. Ritchie, Cascade, B.C.	1 lb	40	Empress M'f'g Co., Vancouver.	.....
" 4	"	50008	N. L. McInnes & Co., Grand Forks, B.C.	3 tins.	45	Kelly, Douglas & Co., Vancouver.	.....
" 4	"	50017	McKim & LeRoy, Grand Forks, B.C.	3 "	40	Georgeson & Co., Calgary.	.....
" 15	"	50020	Trail Grocery Co., Trail, B.C.	1 lb	35	Empress Mfg. Co., Vancouver.	.....
" 15	"	50026	T. Lauriente & Son, Trail, B.C.	3 tins.	40	W. H. Malkin & Co., Vancouver.	.....
" 17	"	50032	Agnew & Co., Rossland, B.C.	1 lb	35	Kelly, Douglas & Co., Vancouver.	.....
1914.							
Jan. 3	"	50047	Star Grocery, Nelson, B.C.	1 "	50	W. A. Jameson, Victoria, B.C.	.....
" 3	"	50049	Hudson's Bay Co., Nelson, B.C.	1 "	40	Wm. Braid & Co., Vancouver.	.....
" 7	"	50058	R. B. Bell, Salmo, B.C.	1 "	40	W. A. Jameson & Co., Victoria, B.C	.....
" 7	"	50061	Salmo Trading Co., Salmo, B.C.	1 "	45	W. H. Malkin & Co., Vancouver.	.....
" 23	"	50066	S. A. Speers, Creston, B.C.	3 tins.	40	Wm. Braid & Co., Vancouver.	.....
" 23	"	50071	Creston Mercantile Co., Creston, B.C.	3 "	40	Cranbrook Jobbers Ltd., Cranbrook, B.C.	.....
" 23	"	50072	Creston Mercantile Co., Creston, B.C.	3 "	30	W. A. Jameson Coffee Co., Victoria, B.C.	.....
DISTRICT OF VICTORIA—							
1913.							
Dec. 9	Ground Ginger	57701	Windsor Grocery Co., 817 Govt. St., Victoria, B.C.	1 lb.	50	Pioneer Coffee & Spice Mills, Victoria, B.C.	.....
" 9	"	57712	Copas & Young, 633 Fort St., Victoria, B.C.	1 "	40	Wm. Braid & Co., Vancouver, B.C.	.....
" 11	"	57717	The West End Grocery Co., Ltd., 1002 Govt. St., Victoria, B.C.	1 "	40	.....	R. P. Rithet & Co., Ltd., Victoria, B.C.
" 11	"	57723	Acton Bros., 1317 Douglas St., Victoria, B.C.	1 "	40	Empress Mfg. Co., Vancouver.	.....
" 11	"	57724	" "	[illegible]	30	E. R. Durkee & Co., New York, U.S.A.	.....
" 12	"	57733	Dixi H. Ross & Co., 1317 Govt. St., Victoria, B.C.	1 "	40	Wm. Braid & Co., Vancouver, B.C.	.....

GROUND GINGER.

Inspector's Report. (Is not an expression of Opinion.)	Results of Analysis.							No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Moisture.	Ash.			Cold Water Extractive.		Microscopical Examination.		
		Total.	Water Soluble.	Ratio.	Normal.	Calculated to dry Sample.			
THOS. PARKER, INSPECTOR.									
	p. c.	p. c.	p. c.		p. c.	p. c.			
.....	7·32	4·66	2·30	0·49	15·65	16·85	Ginger tissues and starch only.	50001	Genuine.
Nabob Brand.....	9·00	4·66	2·56	0·55	16·10	17·40	" "	50008	"
Tuxedo Brand ...	6·62	8·20	2·72	0·33	15·65	16·75	Ginger tissues and starch only. Ash contains a largep.c. lime.	50017	"
.....	8·07	4·46	2·50	0·56	16·85	18·30	Ginger tissues and starch only.	50020	"
Victoria Cross Brand.	9·40	5·02	2·24	0·45	15·00	16·55	" "	50026	"
Columbia Brand..	7·55	5·46	2·76	0·51	14·60	15·80	" "	50032	"
.....	7·52	4·88	2·28	0·47	14·35	15·50	" "	50047	"
.....	8·22	4·84	2·30	0·48	15·35	16·75	" "	50049	"
.....	6·90	4·76	2·36	0·50	13·20	14·05	" "	50058	"
Victoria Cross Brand.	10·50	5·06	2·08	0·41	14·05	15·70	" "	50061	"
.....	8·47	4·64	1·92	0·42	15·25	16·65	" "	50066	"
Regal Brand.....	9·67	6·52	2·66	0·41	14·20	15·70	" "	50071	"
Victoria Brand...	9·65	5·34	2·44	0·46	13·35	14·75	" "	50072	"
D. O'SULLIVAN, INSPECTOR.									
.....	8·50	5·34	2·18	0·41	13·50	14·75	Ginger tissues and starch only.	57701	Genuine.
.....	7·92	5·06	2·56	0·50	14·80	16·05	" " ..	57712	"
.....	8·05	4·72	2·48	0·53	12·45	13·55	" " ..	57717	
.....	8·20	4·80	2·52	0·53	16·70	18·15	" " ..	57723	Genuine.
Gauntlet Brand...	10·37	4·40	2·00	0·45	12·85	14·30	" " ..	57724	"
.....	7·75	5·44	2·42	0·45	14·50	15·70	" " ..	57733	"

Date of Collection.	Nature of Sample.	No. of Sample.	Name and Address of Vendor.	Cost. Quantity.	Cost. Cents.	Name and Address of Manufacturer or Furnisher, as given by Vendor. Manufacturer.	Name and Address of Manufacturer or Furnisher, as given by Vendor. Furnisher.
							DISTRICT OF VICTORIA—
1913.							
Dec. 12	Ground Ginger	57742	James Adam, 1023 Cook St., Victoria, B.C.	1 lb.	40	Kelly Douglas & Co., Vancouver, B.C.	.....
" 16	"	57750	H. O. Kirkham, 741 Fort Victoria, B.C.	3 "	40	.....	Kelly Douglas & Co., Ltd., Vancouver, B.C.
" 16	"	57751	" "	¾ "	30	.....	"
" 17	"	57755	Henry W. Driver, 856 Yates St., Victoria, B.C.	¾ "	30	.....	W. A. Jameson Coffee Co., Victoria, B.C.
" 18	"	57762	Fenerty Bros., Oak Bay Jct., Victoria, B.C.	1 "	40	W. A. Jameson Coffee Co., Victoria, B.C.	.....
" 31	"	57764	The W. A. Jameson Coffee Co., Victoria, B.C.	1 "	25	.....	G. S. Dunn & Co., Hamilton, Ont.
" 31	"	57766	Pioneer Coffee and Spice Mills, Victoria, B.C.	1 "	25	Vendors	.....
" 31	"	57770	C. G. Adams Co., Ltd., Douglas & Johnston Sts., Victoria, B.C.	3 tins.	30	.....	S. Lieser & Co., Ltd., Victoria, B.C.
1914.							
Jan. 2	"	57771	E. B. Jones, 1800 Cook, St. Victoria, B.C.	3 "	30	Empress Mfg. Co., Ltd., Vancouver, B.C.	.....

GROUND GINGER.

Inspector's Report. (Is not an expression of Opinion.)	Results of Analysis.							No. of Sample.	Remarks and Opinion of the Chief Analyst.
	Moisture.	Ash.			Cold Water Extractive.		Microscopical Examination.		
		Total.	Water Soluble.	Ratio.	Normal.	Calculated to dry Sample.			
Continued.									
	p. c.	p. c.	p. c.		p. c.	p. c.			
.....	8·25	3·80	2·08	0·55	16·35	16·70	Ginger tissues and starch only.	57742	Genuine.
.....	8·30	5·10	2·48	0·49	15·65	17·05	" " ..	57750	"
Nabob Brand. ...	11·10	4·26	2·42	0·57	16·00	18·00	" " ..	57751	"
Victoria Brand...	9·60	5·74	2·64	0·46	13·70	15·15	" " ..	57755	"
.....	8·57	4·26	2·56	0·60	16·30	17·85	" " ..	57762	"
Cochin Ginger ...	7·95	5·66	2·42	0·43	14·00	15·20	" " ..	57764	"
Star Brand.....	8·12	3·70	2·36	0·63	17·25	18·80	" " ..	57766	"
Lord Roberts Brand. Pure.	9·30	3·76	2·32	0·62	16·10	17·75	" " ..	57770	"
Empress Brand...	9·90	4·80	2·36	0·49	15·20	16·85	" " ..	57771	"